

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-6. (cancelled)

7. (currently amended) The apparatus of claim [[1]] 10, wherein said laser is a CO₂ laser and laser radiation in said output beam has a wavelength between about 9 and 11 micrometers.

8. (original) The apparatus of claim 7, wherein said acousto-optic cell includes a germanium diffracting material.

Claim 9. (cancelled)

10. (currently amended) An apparatus comprising:
a laser providing an output beam;
an acousto-optic cell arranged to receive said output beam;
a plurality of RF oscillators, the output of each of which is amplified by a corresponding plurality of variable gain amplifiers, the output of said amplifiers being arranged to drive said acousto-optic cell simultaneously at a corresponding plurality of different RF frequencies thereby causing a portion of said laser output beam to be diffracted by said acousto-optic cell into a corresponding plurality of separate secondary beams propagating at an angle to each other, with the power in each of said secondary beams being monitored via a corresponding plurality of detectors, and the power in each of said secondary beams depending on the magnitude of said RF driving frequencies and the power in said laser output beam; and
electronic circuitry arranged to vary the power in said laser beam cooperatively with varying the gain of said amplifiers and correspondingly varying the magnitude of said driving frequencies and monitoring of power in said secondary beams for maintaining a predetermined power in each of said secondary beams.

11. (currently amended) ~~The laser~~ The apparatus of claim 10, wherein said electronic circuitry is further arranged to change said predetermined power in one or more of said secondary beams in response to one or more corresponding commands.

12. (original) The apparatus of claim 10, wherein each of said amplifiers has a different bandwidth.

13. (original) The apparatus of claim 10, wherein there are four oscillators and said acousto-optic cell is driven at four different frequencies, thereby providing four secondary beams.

14. (original) The apparatus of claim 10, further including a beam expander arranged to increase the size of said laser output beam before said laser output beam is received by said acousto-optic cell.

Claims 15-22. (cancelled).

23. (new) An apparatus comprising:
a laser providing an output beam;
an acousto-optic cell arranged to receive said output beam;
a plurality of oscillators, the output of each of which is amplified by a corresponding plurality of amplifiers, the output of said amplifiers being arranged to drive said acousto-optic cell simultaneously at a corresponding plurality of different frequencies thereby causing a portion of said laser output beam to be diffracted by said acousto-optic cell into a corresponding plurality of separate secondary beams, with the power of at least one of said secondary beams being monitored, and with the power in each of said secondary beams depending on the magnitude of the driving frequencies and the power in said laser output beam; and

electronic circuitry arranged to vary the power in said laser beam cooperatively with varying the gain of said amplifiers and correspondingly varying the magnitude of said driving frequencies in order to control the power of the secondary beams.

24. (new) The apparatus of claim 23, wherein the oscillators generate an RF output.
25. (new) The apparatus of claim 24, further including a plurality of detectors for monitoring the power of each of the secondary beams.
26. (new) The apparatus of claim 25, wherein each of said amplifiers has a different bandwidth.
27. (new) The apparatus of claim 25, further including a beam expander arranged to increase the size of said laser output beam before said laser output beam is received by said acousto-optic cell.
28. (new) The apparatus of claim 25, wherein there are four oscillators and said acousto-optic cell is driven at four different frequencies, thereby providing four secondary beams.
29. (new) The apparatus of claim 25, wherein said laser is a CO₂ laser and laser radiation in said output beam has a wavelength between about 9 and 11 micrometers.
30. (new) The apparatus of claim 29, wherein said acousto-optic cell includes a germanium diffracting material.